

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

Claims 1-16 are cancelled.

17. (New) A formaldehyde-free aqueous binder composition comprising:
a binder component (A) obtainable by reacting at least one alkanolamine with at least one carboxylic anhydride and, optionally, treating the reaction product with a base; and

a binder component B) which comprises at least one carbohydrate.

18. (New) The formaldehyde-free aqueous binder composition of claim 17, wherein binder component (A) comprises the reaction product of at least one alkanolamine with at least one carboxylic anhydride in an equivalent ratio of amine and hydroxy groups (NH+OH) to carboxy groups (COOH) of at least 0.4.

19. (New) The formaldehyde-free aqueous binder composition of claim 17, wherein binder component (A) comprises the reaction product of at least one alkanolamine with at least one carboxylic anhydride in an equivalent ratio of amine and hydroxy groups (NH+OH) to carboxy groups (COOH) of at least 0.6.

20. (New) The formaldehyde-free aqueous binder composition of claim 18, wherein the equivalent ratio of amine and hydroxy groups (NH+OH) to carboxy groups (COOH) in the final binder composition is 2.0 or less.

21. (New) The formaldehyde-free aqueous binder composition of claim 18, wherein the equivalent ratio of amine and hydroxy groups (NH+OH) to carboxy groups (COOH) in the final binder composition is 1.7 or less.

22. (New) The formaldehyde-free aqueous binder composition of claim 18, which comprises 60 wt.% or more of binder component (A); and 40 wt.% or less of binder component (B), based on the total solids content of components (A) and (B).

23. (New) The formaldehyde-free aqueous binder composition of claim 22, which comprises 60 to 95 wt.% of binder component (A); and 5 to 40 wt.% of binder component (B), based on the total solids content of components (A) and (B)

24. (New) The formaldehyde-free aqueous binder composition of claim 23, which comprises 60 to 80 wt.% of binder component (A); and 20 to 40 wt.% of binder component (B), based on the total solids content of components (A) and (B).

25. (New) The formaldehyde-free aqueous binder composition of claim 17, wherein the at least one carboxylic anhydride is selected from cycloaliphatic and/or aromatic anhydrides.

26. (New) The formaldehyde-free aqueous binder composition of claim 25, wherein the carboxylic anhydride comprises a combination of a cycloaliphatic and an aromatic anhydride.

27. (New) The formaldehyde-free aqueous binder composition of claim 26, wherein the molar ratio of cycloaliphatic anhydride to aromatic anhydride is within the range of from 0.1 to 10.

28. (New) The formaldehyde-free aqueous binder composition of claim 26, wherein the molar ratio of cycloaliphatic anhydride to aromatic anhydride is within the range of from 0.5 to 3

29. (New) The formaldehyde-free aqueous binder composition of claim 25, wherein cycloaliphatic anhydride is selected from the group consisting of tetrahydrophthalic anhydride, hexahydrophthalic anhydride and methyl-tetrahydrophthalic anhydride.

30. (New) The formaldehyde-free aqueous binder composition of claim 25, wherein the aromatic anhydride is selected from the group consisting of phthalic anhydride, methylphthalic anhydride, trimellitic anhydride and pyromellitic dianhydride.

31. (New) The formaldehyde-free aqueous binder composition of claim 17, wherein the aldanolamine is selected from the group consisting of diethanolamine, triethanolamine, diisopropanolamine, triisopropanolamine, methyldiethanolamine, ethyldiethanolamine, n-butyldiethanolamine, methyl-diisopropanolamine, ethylisopropanolamine, 3-amino-1,2-propanediol, 2-amino-1,3-propanediol and tris(hydroxymethyl)aminomethane.

32. (New) The formaldehyde-free aqueous binder composition of claim 17, wherein the at least one carbohydrate is selected from the group consisting of monosaccharides, disaccharides, oligosaccharides, and water-soluble polysaccharides.

33. (New) The formaldehyde-free aqueous binder composition of claim 32, wherein the monosaccharides comprise xylose, glucose, and fructose; the disaccharides comprise sucrose, maltose and lactose; the oligosaccharides comprise glucose syrup and fructose syrup; and the water-soluble polysaccharides comprise pectin, dextrin, starch, modified starch and starch derivatives.

34. (New) The formaldehyde-free aqueous binder composition of claim 17, further comprising a curing accelerator and, optionally, other conventional binder additives.

35. (New) A method of producing a bonded mineral fiber product which comprises the steps of contacting the mineral fibers or mineral fiber product with a formaldehyde-free aqueous binder composition according to claim 17 and curing the binder composition.

36. (New) A mineral fiber product comprising mineral fibers in contact with a cured binder composition according to claim 17.